CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2009
DateRun:	09/24/2009
Experimenters:	Jason Marshall, Paul Yan
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Plastic
PartType:	Coupon
Contaminants:	Oil, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate supplied products for peanut oil removal from non-porous surface using manual wiping.

Experimental Procedure:

The first supplied product was used at a 1:48 dilution. The second supplied product was used at three dilutions, 1:64, 1:128 and 1:256. A conventional product was used at a 1:64 dilution. A sixth product that uses electrolyzed water was included in the testing.

Preweighed hard plastic coupons were coated with peanut oil taken from a jar of all-natural peanut butter. The oil was skimmed off the top of the container and applied to the coupons using a swab. Coupons were weighed a second time to determine the amount of oil that was applied.

Coupons were placed in a Gardner Straightline washability unit. A Wypall X60 reinforced wipe was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded, and efficiencies were calculated and recorded.

Following the first round of cleaning, a second round of manual cleaning was conducted on the same set of coupons using the washability unit. A second set of final clean weights were recorded, and efficiencies calculated.

Results:

All six products removed over 95% of the peanut oil in the first cleaning attempt. Following the second round of wipe cleaning, all removed over 98%. The four supplied products removed over 99% of the oil. The table lists the amount of peanut oil added, remaining after cleaning and the efficiency for each coupon cleaned for both cleaning cycles.

Cleaner	Initial wt	Final wt	% Removed	2nd Final wt	2nd % Removed
PC 116					
	0.1727	0.0069	96.00	0.0022	98.73
	0.2198	0.0079	96.41	0.0000	100.00
	0.2865	0.0072	97.49	0.0004	99.86
PC 120 1:64					
	0.2379	0.0036	98.49	0.0011	99.54
	0.2743	0.0038	98.61	0.0005	99.82
	0.2599	0.0068	97.38	0.0049	98.11
PC 120 1:128					
	0.2410	0.0099	95.89	0.0014	99.42
	0.2599	0.0054	97.92	0.0001	99.96
	0.3138	0.0052	98.34	0.0012	99.62
PC 120 1:256					
	0.2637	-0.0006	100.23	-0.0013	100.49
	0.2754	0.0005	99.82	0.0009	99.67
	0.2753	0.0044	98.40	0.0000	100.00
Alpha HP					
	0.3543	0.0032	99.10	0.0004	99.89
	0.4482	0.0027	99.40	-0.0007	100.16

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	0.2805	0.0036	98.72	0.0011	99.61
Activeion					
	0.3156	0.0038	98.80	-0.0014	100.44
	0.2006	0.0097	95.16	0.0036	98.21
	0.2349	0.0075	96.81	0.0040	98.30

Summary:

Substrates:	Plastic
Contaminants:	Oil, Food

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Next-Gen Supply Group	PC 116 Non-acid restroom and shower cleaner	2.1	99.53	☑	
Next-Gen Supply Group	PC 120 Peroxide Mulitsurface Cleaner	1.6	99.16	☑	
Next-Gen Supply Group	PC 120 Peroxide Mulitsurface Cleaner	0.78	99.67	☑	
Next-Gen Supply Group	PC 120 Peroxide Mulitsurface Cleaner	0.39	100.06	☑	
JohnsonDiversey	Multi Surface Cleaner (Alpha HP)	1.6	99.88	☑	
Activeion Cleaning Solutions LLC	Activeion Pro	100	98.98	☑	

Conclusion: All six products were very effective at removing peanut oil after two cleaning cycles using manual wiping.